

REMARKS

Entry of the amendments is respectfully requested. Claims 1-8 are pending in the application. Applicants gratefully acknowledge the Examiner's finding that claims 7 and 8 include patentable subject matter.

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

1. Drawing Objections

The drawings were objected to under 37 C.F.R. §1.83(a) because they fail to show the descriptive labels as described in the specification. Figure 1 has been amended to include descriptive labels, in particular, block 1 has been labeled ELEMENT, block 4 has been labeled ELEMENT, block 5 has been labeled BAND PASS FILTER, block 10 has been labeled AMPLIFIER, block 11 has been labeled MIXER, block 12 has been labeled BAND PASS FILTER, block 13 has been labeled DEMODULATOR, block 14 has been labeled INTEGRATOR CIRCUIT, block 15 has been labeled COMPARATOR, block 211 has been labeled FILTER, block 212 has been labeled FILTER, block 213 has been labeled COMPARATOR, block 22 has been labeled MICROPROCESSOR, block 23 has been labeled MASTER OSCILLATOR, block 24 has been labeled PHASE COMPARATOR, block 25 has been labeled DIVIDER, block 26 has been labeled BAND PASS FILTER, block 27 has been labeled SLAVE OSCILLATOR (VCO) and block 28 has been labeled DIVIDER. No new matter has been added.

2. Claim Rejections – 35 U.S.C. § 103(a)

Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Martinez ("Martinez," US 4,908,600) in view of Hawes et al. ("Hawes," EP 0903456 A1). Applicants respectfully traverse the rejection.

Claim 1 is directed to a short radio receiver for motor vehicle data and recites, among other limitations:

... antenna means (1-4) connected to a unit (10-15) for processing a received carrier . . . , the unit (10-15) comprising means (11, 23-28) for frequency transposition of the carrier, . . . means (13) for demodulating the transposed carrier, . . . the receiver being characterized in that the antenna means (1-4) are arranged to receive a plurality of frequency bands and that frequency discrimination means (21,22) are provided . . . , arranged to determine respective reception levels within the bands in order to compare them with each other and to control the frequency transposing means (11, 23-28) depending on the result of the comparison.

As discussed in the specification, in an exemplary embodiment, a short range radio receiver for a motor vehicle is configured to receive data radio signals from a transmitter in order to operate a device, for example, for locking and unlocking the doors of the vehicle. See, Specification, page 1, lines 1-2, 19. The receiver may be operated in different frequency bands. See, Specification, page 1, lines 4-16. Accordingly, the receiver includes antenna means configured to receive radio signals in a plurality of predetermined frequency bands. See, Specification, page 1, line 35 to page 2, line 2. The receiver includes frequency discrimination means (21,22) configured to determine and select the frequency band (from the plurality of frequency bands) with the highest reception or energy level, which is the useful frequency band. See, Figure 1, Specification, page 2, lines 21-29 and page 4, lines 1-3. Discrimination means (21, 22) includes a number of circuits respectively tuned to one of the corresponding frequency bands and configured to determine the reception or energy level of the respective frequency band. See, Specification, page 2, lines 21-25. Discrimination means (21, 22) also includes a comparator configured to compare the reception or energy levels of each frequency band. See, Specification, page 2, lines 27-29. The result of the comparison of the frequency bands by the discrimination means is used to control the frequency transposing means to transpose a carrier signal, depending on the useful band, into a signal that is to be demodulated. See, Figure 1, Specification, page 2, lines 31-33. Accordingly, the short range radio receiver is able to determine the useful frequency band of a received signal, which is one of the plurality of frequency bands the antenna means is able to receive. See, Specification, page 2, lines 21-33.

In contrast, the combination of Martinez and Hawes does not disclose, teach or suggest a short range radio receiver for a motor vehicle that includes antenna means arranged to receive a plurality of frequency bands, a unit for processing a received carrier and including means for demodulating the transposed carrier, and frequency discrimination means connected to the antenna means and arranged to determine respective reception levels within the bands in order to compare them with each other and to control the frequency transposing means depending on the result of the comparison. Rather, Martinez teaches a narrow band communication system including a transmitter device for transmitting a radio signal which is frequency shifted according to a first digital code sequence and time referenced to the frequency of a power line and a receiver device for receiving said transmitted signal and deriving the first digital code sequence therefrom, generating a second digital code sequence at a time referenced to the frequency of the power line and comparing the first and second digital code sequences such that when the digital code sequences are identical, an output signal, for example, an alarm signal, will be generated. See, Martinez, Abstract, Figures 1 and 2, col. 2, lines 3-10, lines 23-32 and lines 55-60 and col. 3, lines 3-10, lines 39-45 and lines 49-58. Both the transmitter device and the receiver device are connected (directly or via an inductance antenna) to a local household AC power line which is used to synchronize (e.g., the digital code sequences) the transmitter and receiver devices. See, Martinez, Abstract, Figures 1 and 2, col. 2, lines 22-27 and col. 3, lines 5-10. There is, however, no teaching or suggestion in Martinez of a number of limitations in claim 1 as recited above.

First, there is no teaching or suggestion in Martinez of an antenna arranged to receive a plurality of frequency bands as recited in claim 1. In the Office Action, the Examiner did not indicate which portion of Martinez the Examiner considers to teach that the receiver antenna 29 is configured to receive a plurality of frequency bands. Martinez teaches that the transmitting device generates a signal with a bandwidth constrained to 100 Hz or less. See, Martinez, col. 1, lines 40-42 and col. 2, lines 55-65. In the sections of Martinez cited by the Examiner in the Office action, however, there is no teaching of an antenna tuned to receive a plurality of predetermined frequency bands.

Second, Martinez does not teach or suggest frequency discrimination means configured to determine the reception levels of a plurality of frequency bands. Rather,

Martinez teaches that the receiver device includes a frequency discriminator 38 that is configured to (1) measure the incoming median frequency of the signal transmitted by the transmitter device and generate a control voltage (2) output a digital code pattern, e_r , of the incoming transmitter device signal. See, Martinez, col. 3, lines 30-33 and lines 39-45. There is, however, no teaching or suggestion of determining the reception or energy level of multiple frequency bands.

Third, Martinez does not teach or suggest comparing reception or energy levels of multiple frequency bands or controlling frequency transposing means based on the result of the comparison of the reception levels. Rather, in the receiver device disclosed in Martinez, a code comparator 67 (cited by the Examiner in the Office Action as corresponding to this limitation) compares two digital code patterns, the one output by the frequency discriminator 38 and one generated by a digital code generator 63. See, Martinez, Figure 2, col. 3, line 59-col. 4, line 4. In addition, in Martinez, a mixer 33 is controlled by a control voltage generated by the frequency discriminator 38 based on the measured incoming median frequency transmitted by the transmitter device, not based on a comparison of reception levels of frequency bands. See, Martinez, col. 3, lines 30-37

Fourth, Martinez does not teach or suggest a unit comprising a means for demodulating the transposed carrier and supplying the demodulated data as recited in claim 1. The elements (31-35) in Martinez cited by the Examiner in the Office Action as corresponding to this limitation do not include a means for demodulating the transposed carrier. See, Martinez, Figure 2. Rather, elements 31-35 of Martinez provide a heterodyne intermediate frequency as an input to the frequency discriminator 38. See, Martinez, Figure 2, col. 3, lines 11-17. The frequency discriminator is configured to generate a digital code pattern based on the heterodyne intermediate frequency signal which is provided to the code comparator 67. See, Martinez, col. 3, lines 39-45. Further, Martinez does not disclose or identify the problems of caused by a multiplicity of frequency band norms for motor vehicle portable remote control transmitters, which lends to production run problems for motor vehicle receivers that must be able to receive such frequency bands. See, Specification, page, 1, lines 10-13. Rather, Martinez deals with the problem that frequency bands used for building security application are too wide. See, Martinez, col. 1, lines 31-39. The narrow

band communication system disclosed in Martinez permits the reduction of the bandwidth to approximately 100 Hz or less. See, col. 1, lines 40-45. Martinez is not concerned with problems of motor vehicle receivers.

Finally, in the Office Action, the Examiner states that "Martinez didn't disclose a receiver for motor vehicle data. Hawes discloses a receiver for motor vehicle data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a receiver in a motor vehicle in order to install the alarm receiver in a common carrier such as an automobile for car door alarm detecting purposes." See, Office Action, section 1, page 3. However, even assuming arguendo that the cited prior art, Martinez and Hawes, included all of the elements of the claimed invention, neither Martinez nor Hawes provides the motivation to combine the references to make the claimed invention. The Examiner does not provide any teaching in Martinez or Hawes that provide motivation for the proposed combination. Martinez teaches a transmitter and receiver device for use in a building, for smoke detectors, burglary sensors or paging device, especially a transmitter and receiver device that are battery operated and located within the same building. See, Martinez, col. 1, lines 7-15. In addition, the receiver device disclosed in Martinez requires a connection (directly or via an inductance antenna) to a building power line. See, Martinez, Abstract, Figures 1 and 2, col. 2, lines 5-10. There is no motivation provided in Martinez or Hawes to combine the references. Even if Martinez and Hawes were properly combinable, the combination of Martinez and Hawes does not result in the claimed invention, as discussed above.

Accordingly, claim 1 is believed to be allowable. Withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claim 1 is respectfully requested

Claims 2-6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Martinez in view of Hawes and further in view of Lampe et al. ("Lampe," US 5,966,646). Applicants respectfully traverse the rejection. Claims 2-6 depend from claim 1 and incorporate all of the limitations of claim 1 and are therefore allowable over Martinez in view of Hawes and Lampe for, among other reasons, the same reasons as given above with respect to claim 1.

Accordingly, claims 2-6 are believed to be allowable. Withdrawal of the rejection under 35 U.S.C. § 103(a) and allowance of claims 2-6 is respectfully requested

3. Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1447. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1447. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 06-1447.

Respectfully submitted,

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By Jean M. Tibbetts

FOLEY & LARDNER LLP
777 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-5306
Telephone: (414) 297-5531
Facsimile: (414) 297-4900

Jean M. Tibbetts
Attorney for Applicant
Registration No. 43,193